

IN THE CLAIMS

1 1. (Previously presented) A method of establishing a routing path in a
2 distributed packet-based network for packet delivery to a destination node within
3 the same packet-based subnet, said destination node having a destination node
4 address, wherein a first address for delivery of a plurality of packets is assigned
5 to a wireless device in said subnet, said first address utilized when said wireless
6 device is attached to said packet-based network through a base station included
7 within a first domain including a set of identified nodes, and wherein a home
8 agent utilizes a second address for said wireless device when said wireless
9 device is attached to the packet-based network through a base station excluded
10 from said first domain, said method comprising the steps of:

11 launching a path setup message from said destination node;

12 receiving said path setup message over a first interface at a first router;

13 and

14 creating a first routing table entry for a first routing table, said first routing
15 table entry corresponding said destination node address to said first interface,

16 wherein a packet, subsequently received at said first router and having
17 said destination node address as a packet header destination address, is
18 forwarded from said first router over said first interface after said first router
19 associates said destination node address with said first routing table entry, and

20 forwarding a handoff update path setup message, for handoffs processed
21 at a network layer, from a second wireless base station to a first wireless base
22 station if said wireless device is handed off from said first wireless base station to
23 said second wireless base station, said handoff update path setup message used
24 to alter routing table entries for selected routers of said subnet, and wherein said
25 first address for said wireless device continues to be utilized if said second base
26 station is within the same subnet.

1 2. (Original) The method in accordance with claim 1 wherein said
2 destination node is a wireless device.

1 3. (Original) The method in accordance with claim 2 wherein said first
2 router is incorporated within a first wireless base station.

1 4. (Canceled)

1 5. (Previously presented) The method in accordance with claim 1
2 wherein said plurality of subnet routers include at least said first wireless base
3 station and said second wireless base station.

1 6. (Previously presented) The method in accordance with claim 1
2 wherein said handoff update path setup message is initiated from said wireless
3 device.

1 7. (Previously presented) The method in accordance with claim 3
2 wherein said wireless device is able to simultaneously tune to, and receive
3 packets from, greater than one base station.

1 8. (Original) The method in accordance with claim 7 wherein said
2 wireless device is a CDMA device.

1 9. (Original) The method in accordance with claim 1 wherein said
2 packet-based subnet is an Internet Protocol subnet.

1 10. (Previously presented) The method in accordance with claim 1 further
2 comprising the steps of:

3 forwarding said path setup message to a next router, said next router
4 receiving said path setup message over a first interface at said next router;
5 creating a next routing table entry for a next routing table, said next routing
6 table entry corresponding said destination node address to said first interface at
7 said next router; and

8 sending a path setup message acknowledgment to said destination node
9 address if said next router is a subnet root router.

1 11. (Original) The method in accordance with claim 10 further comprising
2 the step of:

3 repeating said steps of forwarding and creating a next routing table entry if
4 said next router is not said subnet root router.

1 12. (Previously presented) The method in accordance with claim 1 further
2 comprising the step of:

3 maintaining said first routing table entry as a soft state in said first router,
4 said first routing table entry overwritten with a default entry if a refresh path setup
5 message is not received at said router within a specified period of time.

1 13. (Previously presented) A packet router having a routing table adapted
2 to maintain a plurality of routing table entries for a distributed packet-based
3 network for packet delivery to a destination node within the same packet-based
4 subnet, said destination node having a destination node address, wherein a first
5 address for delivery of a plurality of packets is assigned to a wireless device in
6 said subnet, said first address utilized when said wireless device is attached to
7 said packet-based network through a base station included within a first domain
8 including a set of identified nodes, and wherein a home agent utilizes a second
9 address for said wireless device when said wireless device is attached to the
10 packet-based network through a base station excluded from said first domain,
11 said packet router comprising:

12 means for receiving a path setup message over a first interface, said path
13 setup message including a field defining a destination address;

14 means, responsive to receiving said destination address, for generating a
15 routing table entry corresponding packets arriving at said packet router and
16 having said destination address as a packet header destination address to said
17 first interface;

18 means for receiving at least one packet having said destination address
19 as said packet header destination address;

20 means for performing a lookup of said routing table entry having said
21 destination address and as said packet header destination address from said
22 plurality of routing table entries;

23 means, responsive to said lookup, for forwarding said at least one packet
24 over said first interface

25 wherein a handoff update path setup message from a second wireless
26 base station to said router, for handoffs processed at a network layer, is received
27 if said wireless device is handed off from said router to said second wireless
28 base station, said handoff update path setup message used to alter routing table
29 entries for selected routers of said subnet, and wherein said first address for said
30 wireless device continues to be utilized if said second base station is within the
31 same subnet.

1 14. (Original) The packet router in accordance with claim 13 wherein said
2 destination address corresponds to a wireless device.

1 15. (Original) The packet router in accordance with claim 13 wherein said
2 router is incorporated in a wireless base station.

1 16. (Original) The packet router in accordance with claim 13 wherein said
2 packet router is an Internet Protocol router.

1 17. (Original) The packet router in accordance with claim 13 wherein said
2 path setup message is a power up path setup message.

1 18. (Original) The packet router in accordance with claim 13 wherein said
2 path setup message is a handoff path setup message.

1 19. (Original) The packet router in accordance with claim 13 wherein said
2 path setup message is a refresh path setup message.

1 20. (Previously presented) A method of updating host based routing table
2 entries for a plurality of routers within a subnet when a mobile device is handed
3 off from a first wireless base station to a second wireless base station, said

4 subnet providing wireless access for said mobile device to a packet based
5 network, wherein a first address for delivery of a plurality of packets is assigned
6 to a wireless device in said subnet, said first address utilized when said wireless
7 device is attached to said packet-based network through a base station included
8 within a first domain including a set of identified nodes, and wherein a home
9 agent utilizes a second address for said wireless device when said wireless
10 device is attached to the packet-based network through a based station excluded
11 from said first domain, said method comprising the steps of:

12 creating a handoff path setup message, for handoffs processed at a
13 network layer, at said mobile device;

14 routing said handoff path setup message to said first wireless base
15 station;

16 relating, as a routing table entry, an address for said mobile device with an
17 interface over which said handoff path setup message is received at said first
18 wireless base station and each intermediate router and base station through
19 which said handoff path setup message is routed; and

20 utilizing said routing table entry to forward a packet having said address
21 for said mobile device as a packet header destination address over said interface
22 over which said handoff path setup message is received, and wherein said first
23 address for said wireless device continues to be utilized if said second base
24 station is within the same subnet.

1 21. (Previously presented) The method of Claim 1, wherein said subnet is
2 a single hop wireless network.